

Minimum Sign Retroreflectivity Levels
Unscientific Results of Follow up Survey
Urban Traffic Engineers Council
January 14, 2010

Background information:

In spring 2008, Urban Traffic Engineers Council members were invited to answer a survey. The goal was to help Washington's cities and counties make sense of a change to the 2003 Manual on Uniform Traffic Control Devices (MUTCD). This change, found in 2003 MUTCD Revision 2, set minimum levels for sign retroreflectivity. It requires public agencies to maintain their signs to at least minimum levels. And it set three phase-in compliance dates for agencies to do so.

Survey questions ranged from "Has your agency estimated the cost for meeting compliance requirements? What are the costs?" to "What funding sources will your agency pursue to meet the new requirements?" We heard from six counties, five cities, and one public works consultant. At the time, some agencies were not yet sure how they would proceed.

The goal of this follow up survey is to glance at how agencies are now meeting or planning to meet the minimum retroreflectivity levels.

Note:

FHWA came out with the 2009 MUTCD on December 16, 2009. However, at the time this survey was sent, Washington State had not yet adopted the manual.

Phase-in Compliance Dates:

- January 22, 2012 to implement and then continue to use an assessment or management method that is designed to maintain traffic sign retroreflectivity at or above the minimum levels shown in Table 2A-3 of the 2003 MUTCD Revision 2.
- January 22, 2015 to replace any regulatory, warning, or ground-mounted guide (except street name) signs that do not meet the minimum retroreflectivity levels.
- January 22, 2018 to replace any street name signs and overhead guide signs that do not meet the minimum levels.

Agencies who responded to survey:

Total Agencies: 17

Cities: 12**Counties:4****Consultants: 1**

Everett	Anonymous City A	Clallam	Northwest Engineers
Federal Way	Anonymous City B	Kitsap	
Kennewick	Anonymous City C	Lewis	
Sammamish	Anonymous City D	Spokane	
Walla Walla	Anonymous City E		
West Richland	Anonymous City F		

1) Did your agency respond to the spring 2008 survey?

Yes: 1 agency (Federal Way) and 1 consultant (Northwest Engineers)

No: 2 agencies (Everett, Spokane County)

Don't Know: 13 agencies (Anonymous Cities A, B, C, D, E, and F, Kennewick, Sammamish, Walla Walla, West Richland, Clallam County, Kitsap County, Lewis County)

2) What sign assessment or management method, or combinations of methods, has your agency selected to meet the minimum retroreflectivity requirements?

Visual nighttime inspection: 7 agencies

(Anonymous City F, Everett, Federal Way, Sammamish, Walla Walla, Kitsap County, Lewis County)

Control signs: 2 agencies (Federal Way, Sammamish)

Expected sign life: 7 agencies

(Anonymous Cities A, C, D, and E, Everett, Kennewick, Spokane County)

Measured sign retroreflectivity: 2 agencies (Everett, Sammamish)

Blanket Replacement: 1 agency (Anonymous City D)

Other methods: 1 agency (Lewis County)

Don't know yet: 3 agencies (Anonymous City B, West Richland, Clallam County)

3) What percent of existing signs within your jurisdiction will need to be replaced to meet the minimum retroreflectivity requirements by MUTCD's phase-in compliance dates? Please also add any comments you may have.

We have been doing night surveys for several years. I am fairly certain that we have kept up with minimum retroreflectivity standards by replacing suspect signs each year during our annual nighttime surveys. I don't think we will have a significant replacement need. (Kitsap County)

Less than 5%. (Federal Way, West Richland)

Less than 5%: This is a guess. We have done a nighttime inspection for the last 15 years and have replaced signs each year that did not pass the standard set. (Anonymous City F)

Expect about 10% annually: (Anonymous City E)

30%: (Sammamish)

50%: (Everett)

70%: (Spokane County)

75%: (Walla Walla)

82% for 2015 and 86% for 2018: This is after the Lewis County Low Cost Run Off Road Safety Improvements Project, currently underway to replace all signs except route numbers and mile markers on all major collector (07 class) roads in the County. (Lewis County)

Probably the majority of them: (Anonymous City B)

We don't know yet: I think that most of them will be because of the minimum contrast standards (Clallam County)

Cannot give an up to date answer even with respect to old compliance dates let alone any revision of compliance dates not yet adopted. We had been aiming at a 10% annual upgrade/replacement starting several years ago, but circumstances and numbers have changed with recent annexation(s). (Anonymous City A)

Not sure: (Kennewick)

4) Has your agency estimated the cost for meeting the compliance requirements that are above and beyond your original/planned sign maintenance activities?

Yes: 3 Agencies. (Anonymous City A, Sammamish, Lewis County)

No: 13 Agencies. (Anonymous Cities B, C, D, E, and F, Everett, Federal Way, Kennewick, Walla Walla, West Richland, Clallam County, Kitsap County, Spokane County)

NA: 1 consultant (Northwest Engineers)

5) What are these costs and what are they based on?

\$5,000 annual cost: For labor and materials. (Anonymous City F)

\$20,000 annual cost: (Sammamish)

\$250,000 annual cost: (Everett)

\$400,000 one time capital cost: (Lewis County)

We no longer have a current cost as inventory has changed substantially. (Anonymous City A).

6) When did or when does your agency intend to begin making necessary changes to meet the minimum retroreflectivity requirements?

Our signs have met or exceeded the minimum requirements since 1981 when we first standardized on high-intensity grade sheeting; then in 1996 when we went to diamond grade sheeting for most applications and in 2007 when we required diamond grade be the minimum for all applications. (Anonymous City E)

We began to replace defective and/or deficient signs yearly beginning about 1994. (Anonymous City F).

We already have. (Lewis County)

We were/are already doing it. (Federal Way)

All new signs are specified to meet expected life requirements. Annual activity includes sign replacements. (Anonymous City A)

2006. (Everett)

We are working on a sign inventory system now. We replaced all our school signs a couple of years ago and have done some of our stop signs. (Anonymous City D)

April 2009. (Clallam County)

Our signs are being phased in according to the compliance dates. (Spokane County)

We are currently looking for a methodology to set up a calibration sign assembly for the sign technicians to "calibrate" their eye. (Kitsap County)

We need to look at it in 2010. (Anonymous City B, Anonymous City C)

2011. (Sammamish)

After we populate our sign inventory. (Kennewick)

Not determined yet. (West Richland)

Unknown right now due to lack of money. (Walla Walla)

7) What steps has your agency accomplished so that signs meet minimum retroreflectivity requirements by MUTCD's phase-in compliance dates? Feel free to discuss training, building a sign management or assessment program, changing out a certain percentage of signs, etc.

Training of 2 technicians. International Municipal Signal Association (IMSA). (Clallam County)

Training, building a sign management/assessment program. We have changed out all of our school signs and about 1/3 of our stop signs. (Anonymous City D)

We are in the process of creating a sign inventory to aid us in identifying which signs need to be replaced. (Kennewick)

We are beginning work on a sign management inventory system. In 2003 we began replacing street name signs (D3-1) with the larger signs plates. (Anonymous City E)

GIS data base will be expanded to include both install dates and facing material as well as new annexed signs. (Anonymous City A)

Everett reviewed all of the city's stop signs for reflectivity in 2006 and replaced non-reflective signs in 2007. Everett began an annual sign replacement/maintenance program in 2009 with sign replacement occurring along arterial corridors. We also purchased the Clearview Font for street name signs and began installing larger street name signs this year. We desperately need a sign inventory and management system. We are looking into developing sign inventory and maintenance program in our existing GIS system called Go Sync, which is client software for ARCGIS. City budgeted and funded the annual sign replacement program in 2009, but we scaled back our expenditure due to budget concerns. Sign replacement is fully funded for 2010. (Everett)

We are currently replacing all signs (except route numbers and mile markers) on all 07 class roads in the County through a High Risk Rural Road Program grant. We have been conducting nighttime retroreflectivity testing for several years and we are in the process of refining a sign maintenance program to assess how to meet the 2015 and 2018 requirements. (Lewis County)

Added type of sheeting to maintenance recording to track expected sheeting life. (Spokane County)

Performed inventory and night inspection. (Walla Walla)

Annual nighttime inspections resulting in replacement of deficient signs. (Anonymous City F)

Continue with our ongoing night survey program. (Kitsap County)

Sign inventory, night inspection, install signs per new MUTCD standards. (Sammamish)

None yet. (West Richland)

8) This question is for agencies that have started changing out signs to ones that meet the minimum retroreflectivity requirements. What percent of signs that need to be replaced have been replaced so far?

I have not pulled/requested that number and know that all data sets were not collected far enough back to get an accurate answer before the database is expanded/updated. (Anonymous City A).

Maybe 5%. (Anonymous City D)

Material on all signs meet requirements. At this time it is unknown what percentage are out of compliance due to age/other reason. Last nighttime survey was 2-years ago, when we then decided to head toward a sign inventory / management system. (Anonymous City E)

14% as of spring 2009. (Lewis County)

We have completed replacing all substandard signs and we now operate to maintain the standard. (Anonymous City F)

9) What does your agency still need to accomplish to meet the minimum retroreflectivity requirements by MUTCD's phase-in compliance dates? Select all answers that apply.

Sign inspection. (Anonymous Cities A, B, and E, Everett, Kennewick, Sammamish, Clallam County)

Build a sign management or assessment program. (Anonymous Cities D and E, Everett, Kennewick, Clallam County, Lewis County)

Hire one or more staff members. (Kennewick, Anonymous Cities A, B, and D)

Purchase inspection equipment. (Anonymous City F, Everett, Sammamish, Kitsap County)

Training. (Anonymous Cities B and E, Sammamish, Clallam County)

Ask Washington State Department of Transportation for Assistance. (Clallam County)

Ask Federal Highway Administration for assistance. (Clallam County)

Funding. (Anonymous Cities A, D, and E, Sammamish, Walla Walla, Clallam County, Lewis County)

Ask another local agency for assistance. (Anonymous City B)

Still need to learn about the requirements. (Sammamish, West Richland, Clallam County)

Nothing, we're ready. (Spokane County)

We don't know yet. (Clallam County)

Other. (Anonymous Cities A and C)

10) If your agency's staff needed training or your agency has identified that staff needs training, where did you/do you plan to get this training?

Training will be developed in house. (Everett)

Our sign training is generally thru International Municipal Signal Association (IMSA).
(Anonymous City A)

International Municipal Signal Association (IMSA). (Kitsap County)

State or County regional agencies. (Sammamish)

WSDOT, International Municipal Signal Association (IMSA), sign vendors. (Clallam County)

Typically attend local WSDOT classes. (West Richland)

Not identified, we are hopeful WSDOT and/or FHWA will provide low/no cost training.
(Anonymous City E)

11) What funding sources does your agency use or what sources will your agency pursue to meet the new requirements? Select all answers that apply.

No new funding sources. (Anonymous Cities A and C, Federal Way, Kennewick, Walla Walla, Spokane County, Kitsap County)

County road funds or street use funds. (Kennewick, Clallam County, Kitsap County, Lewis County, Spokane County).

Grants. (Anonymous City A)

This has not yet been determined. (Anonymous Cities B and E, Sammamish, Clallam County, Lewis County)

We don't know yet. (Anonymous City D, West Richland, Clallam County)

Other. (Anonymous Cities A and F, Everett)

12) Please explain and provide more detail for your answer to question 11 above.

Will probably have to be absorbed by the general street fund. (Kennewick)

We will continue to use county road fund dollars for as needed replacement and are currently replacing as much as possible with high intensity prismatic signs that meet the standard. How much more funding will be needed to complete the change-out is not yet known. We will be pursuing outside funding/grants for the remainder of this word as they are available. (Lewis County)

Where grant funding sources exist, existing lower grade signs are replaced. Other funding is within the annual maintenance budget. The added personnel and equipment (hope) for annexed signs is from the earmarked sales tax increment associated with current annexation legislation. (Anonymous City A)

Funding for sign replacement is from the General Fund. (Everett)

Will be seeking grants if there are any available. (Spokane County)

We would expect that the costs could be done as part of our normal program, however, until the field assessment and sign management program are completed we are not completely sure if there will be additional impacts beyond the normal and the extent, if any. (Anonymous City E)

We will continue to use street operations and maintenance budget. (Anonymous City F)

Funding will probably have to come out of the road funds. It hasn't been fully addressed yet. (Clallam County)

We will look into this during the 2011-2012 budget cycle. (Sammamish)

With the downturn in the economy what little dollars there were before are now gone with reluctance by elected officials to further tax residents. (Walla Walla)

13) What comments or questions do you have?

By not already having a sign inventory in place, it has complicated the requirements of trying to obtain minimum retroreflectivity. (Kennewick).

#9 Other reflects equipment needs in addition to staff addition needs and need for revision and expansion of the existing database. #11 Other reflects adopted engineering standards governing any new other party installed signing. UNMENTIONED or uncaptured elsewhere OTHER is the impact of graffiti on sign maintenance activities, materials, and retroreflective compliance. (Anonymous City A)

Being a consultant, I cannot answer any of the questions beyond number 2. I am very interested in seeing how all of the agencies within the State are doing on these changes. Now that the new MUTCD is out, there are other items that will need to be addressed by agencies. (Northwest Engineers)

The one thing that I feel we are lacking is electronic test equipment to verify that our current standard is accurate. Is there an agency that loans out test equipment? (Anonymous City F).

I think that a lot of people are not setting a very high priority on this matter. There are quite a few comments about this being an unfunded mandate and "we don't have the funding". (Clallam County).

What funding sources are available in 2010 or beyond for sign replacement to meet the new standards? (Lewis County)

Note: To receive a copy of this document, please contact Washington State Department of Transportation Highways and Local Programs Traffic Services at (360) 705-7385.